Department of the Army Headquarters, National Training Center and Fort Irwin Fort Irwin, California 92310-5001 16 November 1998

Facilities Engineering FIRE PREVENTION

Summary. This regulation provides an effective Fire Prevention and Protection Program to present, detect, control, and report fires or hazardous conditions or practices which may result in a fire.

Suggested Improvements. The proponent of this regulation is the Directorate of Public Works (DPW). Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, National Training Center (NTC), and Fort Irwin, ATTN: AFZJ-PW, Box 105097, Fort Irwin, CA 92310-5097.

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^{*}This regulation supersedes NTC Reg 420-2, dated May 1983.

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Chapter 1

General

1-1. Purpose

To implement Army Regulation (AR) 420-90 by establishing an effective Fire Prevention and Protection Program to present, detect, control and report fires or hazardous conditions or practices which may result in a fire.

1-2. Applicability

This regulation applies to all personnel and organizations at Fort Irwin including concessionaires and dependents.

1-3. Responsibilities

Commanders and Directorates will take the following action to implement the Fort Irwin Fire Prevention Program.

- a. Assure that each individual concerned, for their own protection, is aware of this regulation and its contents.
- b. All personnel subject to this regulation are responsible for taking direct action to correct or report fire hazards to the Fire Department. In addition, any person having knowledge which might assist in determining the cause of or responsibility for a fire, is charged with the duty of furnishing such information to the Installation Fire Chief without delay, whether or not requested.
- c. In the event of a fire that involves government owned property, property leased by the government, property leased or signed out from the government by prime contractors, subcontractors, other government agencies or any other entity, shall remain in the custody and jurisdiction of the Fire Department until thorough and complete investigation of the cause or causes of the fire have been arrived at, or until the Fire Department releases the involved property or properties.

1-4. Definitions

- a. Act of God. An extraordinary interruption of the usual course of events that no reasonable foresight or care could have foreseen or guarded against. Examples are: Lightning, windstorm, earthquakes, and other natural phenomena.
- b. Approved Equipment. Equipment that has been tested and approved by a nationally recognized testing laboratory, such as Underwriters'

Laboratories, Inc. (UL), Factory Mutual Engineering Division Laboratories (FM), Factory Insurance Association (FIA), US Bureau of Mines, American Gas Association (AGA), and American Standards Association. The Installation Fire Chief will make the final determination as to whether other laboratories are recognized. Approved equipment will be used, located and installed in accordance with (IAW) the stipulations in the listing of the approved laboratory. Listing refers to the inclusion of an item in publication of the laboratory such as the UL Electrical Equipment list.

- c. Combustion Material. Material that will burn under ordinary atmospheric conditions.
- d. Electrical Wiring System. The system includes any means of conveying current except extension and appliance cords connected to the power source by means of standard plugs in receptacles provided for that purpose.
- e. Fireworks. A combustible or explosive device for producing a display of light or a loud noise.
- f. Combustible Liquid. A liquid having a flash point at or above 100 degrees Fahrenheit.
- g. Housekeeping. The maintenance of premises, outdoors and indoors, in neat, orderly and fire-safe condition.
- h. Mechanical Equipment Room. Rooms housing refrigeration, air handling equipment, pumping equipment (except sump pumps), filtration and chlorination equipment and compressors where access by other than maintenance personnel is not authorized.
- i. Posting. Display of a document, sign, or notice at a location to attract the notice of persons concerned. Examples: "NO SMOKING' signs should be visible to all occupants. A fire plan should be at a location frequented by employees and those having duties to perform in emergencies. Regulations and multi-page documents may be posted if in marked covers and accessible to all personnel.
- j. Reasonable Prudence. Exercise of judgement, forethought, and precautions expected of a normal intelligent person of equivalent age, training or experience.
- k. Reasonable Care. Exercise of precautions and control of action that would be

expected of a normally prudent person under similar conditions.

- l. Reasonable Time. Time required to effect correction by diligent and prompt effort and not necessarily suiting the convenience of the occupant or using service. The Installation Fire Chief shall determine the time allowed to correct deficiencies and effect notification to the personnel having responsibility for the facility involved.
- m. Safety Cans. Safety cans for bulk handling of flammable liquids are especially designed portable metal containers with springloaded, self-closing valve openings containing a flame arrester, capacities 1 pint to 5 gallons.
- n. Flammable Liquids. A liquid having a flash point below 100 degrees Fahrenheit.
- o. Storage. The placement of materials in any location where it will remain overnight. Material will be considered in transit (not stored) when it will be moved again prior to the activity closing for this day.

1-5. General

Fires are caused by a lack of knowledge, carelessness, and direct violation of the two basic principles of prevention:

- a. The elimination of the source(s) of ignition.
- b. The removal of the means of supporting combustion.

1-6. Filing Instructions

A copy of this regulation will be kept on file by all Building, Unit, and Area Fire Marshals.

Chapter 2

Organization and Responsibilities for Fire Prevention

2-1. Scope

This regulation is taken from the text of AR 420-90 and FORSCOM Reg 420-20 and the Uniform Fire Codes.

2-2. General

It is the responsibility of every person assigned to this installation, military, dependent, civilian employee and government contractor to be familiar with this regulation.

2-3. Duties and Responsibilities

The Installation Fire Marshal, Fire Chief, Fire Prevention Inspector, Building Unit and Area Fire Marshal, Activity Supervisors and Department Heads will be thoroughly familiar with this regulation and as applicable will ensure proper dissemination of and rigid compliance of this regulation.

2-4. Installation Fire Marshal

The Directorate of Public Works (DPW) is the Installation Fire Marshal and is directly responsible to the Installation Commander for the technical development and execution of an effective fire prevention and protection program for the entire installation, sub-installation and other supported activities. Duties of the installation Fire Marshal include:

- a. Preside at quarterly briefing with Area Fire Marshals.
- b. Review the monthly Fire Safety
 Deficiency Report consolidated by the Fire Chief
 from the Area Fire Marshal's monthly report.
 Determine how outstanding deficiencies will be
 corrected and establish a work completion date for
 each deficiency.
- c. Periodically review the Fire Regulation to identify inadequate and inapplicable sections. Initiate changes or complete revisions of the regulation when applicable.
- d. Ensure that plans and specifications for all building construction receive a fire protection technical review, and design changes are made where necessary for compliance with Department of Defense (DoD) and DA fire safety criteria.
- e. Ensure that construction using self-help building materials is constructed with DoD and DA fire safety criteria.
- f. Ensure that the Installation Fire Chief is properly briefed on developing situations that affect installation fire safety.
- g. Daily check the status of fire suppression capability of the Fire Department and take action as necessary to ensure that an adequate number of properly manned fire trucks are in service.
- h. Ensure that an adequate fire safety public awareness program is provided.

i. Supply the Fire Department with the names and phone numbers of all Area, Unit, and Building Fire Marshals.

2-5. Installation Fire Chief

The Installation Fire Chief is directly responsible to the Installation Fire Marshal for all activities involving fire prevention, protection, and suppression. The Installation Fire Chief will:

- a. Furnish technical assistance to Area, Unit and Building Fire Marshals.
- b. Review all construction plans, self-help plans, specifications, and recommend changes as required for compliance with regulations and the Uniform Fire Codes.
- c. Investigate all fires and prepare the necessary fire reports and reports of technical investigation. A preliminary report will be forwarded to the Installation Fire Marshal within 24 hours of all reportable fires.
- d. Provide technical assistance to boards of inquiry, Criminal Investigation Department (CID) or others authorized to investigate fire incidents.
- e. Advise the Installation Fire Marshal in writing each month of the serious fire safety deficiencies that have been recognized but not corrected.
- f. Manage the Fire Department operations in a manner consistent with DoD, DA, and Major Army Command (MACOM) instructions and directives.
- g. Be thoroughly familiar with this regulation, FORSCOM Reg 420-24, and all other code books relating to fire prevention and protection.
- 2-6. Area, Unit, and Building Fire Marshals
 Appropriate commanders will appoint fire prevention
 personnel within their respective area, unit and
 buildings. Area Fire Marshals will be appointed in
 each major troop unit or agency such as regiment,
 battalion, squadron, and separate companies.
 Personnel appointed will be supervisory personnel.
 Unit Fire Marshals will be appointed in each
 company-size unit, department special staff section
 of similar activity or agency. Building Fire Marshals
 may be appointed for separate buildings or areas,
 such as motor pools, office buildings, supply rooms,
 mess halls, and other buildings or areas nor
 immediately accessible to personnel on duty after

duty hours, weekends and holidays. Assistant Area, Unit and Building Fire Marshals may be appointed as deemed necessary.

- a. Area Fire Marshals will attend quarterly briefings by the Installation Fire Marshal and Installation Fire Chief. New appointees will contact the Installation Fire Chief and arrange for a briefing on duties and responsibilities.
- b. Duties and Responsibilities of Area Fire Marshals.
- (1) Responsible for proper discharge of the duties assigned to Unit Fire Marshals in his area, for coordination of their activities and liaison with high levels of command.
- (2) Responsible for posting guards for security and fire watch after each fire; the guard service will be continued until terminated by the Installation Fire Marshal.
- (3) Establish a schedule for fire drills. (See Chapter 4, paragraph 4-4)
- (4) Advise the Installation Fire Chief in writing each month of the fire safety deficiencies that have been recognized by subordinate Building and Area Fire Marshals. Indicate corrective action that has been taken or action that is required to eliminate outstanding deficiencies.
- (5) Take immediate action to eliminate fire hazards that are an imminent threat to life or property.
- (6) Maintain records and perform duties required by Chapter 7, paragraph 7-3.
- c. Duties and Responsibilities of Unit Fire Marshals.
- (1) Coordinate the activities of Building Fire Marshals.
- (2) Maintain a record of fire inspection of all buildings assigned to the unit.
- (3) Prepare building fire plans and assist Building Fire Marshals in preparation of their building fire plans.
- (4) Hold fire drills at intervals established by the Area Fire Marshal and maintain a record of such drills.

- (5) Advise the Area Fire Marshal in writing each month of the fire safety deficiencies that have been recognized within the unit. Indicate corrective action that has been taken or that is required.
- (6) Take immediate action to eliminate fire hazards that are an immediate threat to life or property.
- d. Duties and Responsibilities of Building Fire Marshals. See Chapter 7, paragraph 7-5.

2-7. Contractors and Concessionaires

Contractors/Concessionaires will participate in the installation fire prevention program. Contractors and Concessionaires will appoint Building Fire Marshals where complete buildings or sections of buildings are under their exclusive control. Duties of the Building Fire Marshal are indicated in the preceding paragraph, except the Installation Fire Chief will be advise without delay of all fire safety deficiencies within the Contractor/Concessionaires area of operation. The contractor will exercise prudent care in protecting Army property from damage by fire.

Chapter 3

Action in Event of Fires

3-1. Purpose

To establish procedures for reporting fires and alerting personnel in the event of an actual fire.

3-2. Alarm of Fire

- a. A person discovering a fire, regardless of type or size, will immediately alert, or cause to be alerted, all personnel be the quickest means available.
- b. All fires, including grass, vehicle and appliance fires will be reported, including those extinguished on discovery and those burned out prior to discovery. Supervisory personnel, on being advise or learning that a fire has occurred, will, in the absence of positive knowledge that the Fire Department has been notified, immediately report the incident to the Fire Department.

3-3. Accidents Involving Flammable Liquids and Gases

Any accident involving the release or spillage of 1 gallon or more of a flammable liquid or gas will be reported immediately to the Fire Department and DPW, Environmental Division.

3-4. Reporting Procedures

- a. Persons reporting fires by telephone from the cantonment and airfield will dial 911 and say, "I want to report a fire". Stay on the line until released by the person receiving the call. Answer all questions and carry out any instructions given by the operator. The building number, quarters number, and street address (range or bivouac area) must be given in detail.
- b. Fires may also be reported by dialing 3496 or relayed through Range Control, Military Police (MP), etc.
- c. Fire in the housing area will be reported by dialing 911.
- d. Fire Department at Building 400 located on Langford Lake Road across from the Auto Hobby Shop.

3-5. Action After Giving Fire Alarm

When possible and safe to do so:

- a. Alert all personnel in the involved and adjoining buildings. If not already done, have doors and windows closed, and shut off all fans and electric circuits. Doors and windows will not be reopened except by a fire official.
- b. During the time of the initial alarm, personnel familiar with fire fighting equipment will make a safe attempt to extinguish the fire.
- c. If the fire is in a closed or locked building, room, or compartment, no attempt will be made to enter or open the fire area except to attempt rescue of trapped personnel.

3-6. Evacuation

- a. Persons discovering fires will take immediate action to ensure that the danger area is vacated by all persons, giving special attention to sleeping or incapacitated persons and children. Definite assembly points will be established for head count to ensure that all personnel are out of the building.
- b. Nursery evacuation plans will ensure that:
- (1) Maximum use can be made of facilities for movement of the children, i.e., several children placed in a crib equipped with rollers and moved by an attendant.

- (2) Attendants know the number of children and can account for the total number in event of emergency evacuation.
- c. In confinement areas, such as stockades, psychiatric, or detention wards, the attendant will be prepared, in the event of fire, to release the prisoners and patients under his care and will not leave his post unless properly relieved.

3-7. False Alarms

Any person maliciously or knowingly transmitting a false fire alarm to the Fire Department, by any means or for any purpose, will be subject to punishment to the full extent regulation or laws allow. Alarms arising from honest errors or transmitted in the belief that there is or may be, a fire, are not false alarms, under this provision.

Chapter 4

Fire Plans and Fire Drills

4-1. Purpose

To establish requirements and objectives for building fire plans.

4-2. Scope

A fire plan is required for each building housing 20 or more persons, those housing operations or occupancies, those housing persons under restraint, and for those housing wholly or partially incapacitated persons (other than private quarters). Fire Plans will have the safety of the building occupants as their primary and governing objective. Preservation of property is secondary. No element of this plan will require any actions which may involve risk of injury or loss of life, with the exception that persons having other human beings in their custody such as confinement officers, stockade guards, ward masters in psychiatric or detention wards, and attendants with non-ambulatory patients, will give first consideration to the safety of their charges.

4-3. Responsibilities

- a. Unit and Area Fire Marshals will ensure that Building Fire Plans are prepared for all buildings as stipulated in the following paragraphs. Buildings are classified as places of assembly, health care, and mercantile occupancies with an occupancy classification of 50 or more persons. Occupancy classifications are identified as follows:
 - (1) Places of Assembly

Motion Picture Theater
Assembly Halls
Auditoriums
Youth Clubs
Gymnasiums
Bowling Lanes

Snack Bar
Chapels
Officer Clubs
Noncommissioned Officer
(NCO) Clubs
EM Clubs
Child Care Center

Dining Halls

(2) Health Care Hospital Dental Clinics

(3) Mercantile Post Exchange Commissary

Package Store Shopette

- b. Details of fire plans will vary within individual buildings, but each plan will provide for the elements listed in the following paragraphs:
- (1) All employees of buildings identified in Chapter 4, paragraph 4-3a above, will be instructed or the proper method of reporting a fire. (Chapter 3, paragraph 3-4)
- (2) In buildings where occupancies of customers, guests or patients exceed 100, route monitors will be appointed.
- (3) Hospital only The assignment of fire extinguisher operators and evacuation teams is governed by Medical Evacuation (MEDDAC) Fire Regulation. Routing of patients and guests is assigned by the MEDDAC Fire Regulation.

4-4. Fire Drills

- a. In all occupancies identified in Chapter 4, excluding the hospitals, training fire drills will be conducted as stipulated below.
- b. Fire drills will be conducted by building Fire Wardens monitored by Area Fire Wardens (Fire Department personnel).
- (1) In all buildings with an occupancy of 50 or more personnel, fire evacuation drills will be held once each month. In buildings with as occupancy of 50 personnel or less, evacuation drills will be conducted annually or as stipulated by the commander or staff directorate.
- (2) All building occupants will participate in evacuation drills.

(3) Hospital fire drills will be monthly for all three working shifts. All other MEDDAC buildings will be governed by this regulation.

4-5. Preservation of Property

During a fire evacuation, personnel present will disconnect and cover office machines, which will provide them protection from fire and water damage.

- a. Irreplaceable records not in fire resistant containers will be removed from the building.
- b. Safe and vault doors will be closed and locked. File and desk drawers will be closed.
- c. The requirements stipulated above should be accomplished during training drills if circumstances permit.

Chapter 5

Building Utilization

5-1. Purpose

To establish scope and criteria for use of buildings.

5-2. Scope

Applicable to all buildings on the installation including those owned or utilized by contractors or concessionaires. Excluded are vans or temporary structures used exclusively as tool sheds or fabrication facilities in connection with construction work.

5-3. Life Safety

- a. Exit Facilities.
- (1) No restrictive hardware, such as padlocks and hasps, throw bolts or crossbars shall be installed on any door, except as permitted by National Fire Protection Association (NFPA) No. 101.
- (2) No "knock-out" panel or emergency escape panel shall be provided in lieu of standard exit facilities as required by NFPA No. 101.
- (3) Exit doors shall be unlocked during periods of occupancy.
- (4) Exit passageways, corridors, and doors shall be kept clear and unobstructed at all times.

(5) Padlocks and/or hasps are not permitted on doors of individual rooms in barracks, BOQs, BEQs, and similar sleeping occupancies unless arranged to be locked in the open position. Interior devices on doors of such rooms shall be capable of operation by occupants within the room without the use of a key.

b. Fire Exit Sign Requirements.

- (1) Electrically illuminated exit signs will be fully operational at all times. Buildings stipulated in Chapter 4, paragraph 4-3a of this regulation, BOQs, BEQs, and all buildings which have personnel on duty at night must meet this requirement. All other occupied facilities may utilize plastic, metal or cardboard signs which read "EXIT" (red or white background) to designate fire exits.
- (2) Exit signs will be installed on the inside surface above all exterior fire exit doors and above interior doors leading to exterior fire exit doors. Exit signs will be installed on all doors leading to platforms or ladders attached to buildings to provide for emergency egress.
- (3) In those facilities requiring electrically operated exit signs, signs will be illuminated during all hours of occupancy. (See paragraph 1 above.)
- (4) Doors blocked in warehouses or buildings used for storage will also be identified by signs on the outside which read "DOORS BLOCKED", on the inside by signs which read "NOT AN EXIT". All buildings used as dead storage (not occupied) will be equipped with a sign on the outside of the building which identifies the responsible unit or agency (name and telephone number will be included).
 - c. Stairs and Stairways.
- (1) No stairway shall be used for storage purposes.
- (2) Storage closets in stair enclosures shall contain no combustible materials.
- (3) Stairway doors equipped with automatic door-closing devices shall be kept closed at all times unless equipped with automatic devices which respond to smoke and/or products of combustion to cause such doors to close automatically.

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(4) No stairway door shall be held open by wedging or blocking in by other device which will prevent the automatic closing of such doors.

5-4. Draperies and Decorations

- a. All draperies and decorations in buildings such as hospitals and places of assembly shall be non-combustible or treated with an approved flame-proofing material prior to use.
- b. Only non-combustible or approved flame-proof materials shall be used for windows decorations or coverings. Flame-proofing of wall decorations is required if the amount present exceeds 10% of the entire wall surface.

5-5. Use of Live Christmas Trees

- a. The location of any Christmas tree or similar temporary decoration shall be subject to approval by qualified fire prevention personnel. Various commercial flame-proofing products on natural (live) Christmas trees are questionable. The most satisfactory treatment experienced to date in reducing the flammability of natural trees is placing the trunk in a water-filled stand so that the freshly cut portion is completely immersed. These trees absorb water at a fairly rapid rate and the water in the stand must be replenished at frequent intervals.
- b. All Christmas tree ornaments and decorations shall be non-combustible. All lights and lighting sets for use with Christmas trees shall be in serviceable condition and UL rated.
- c. No natural Christmas Trees shall be permitted in a building, including Family Housing, for a period in excess of 10 calendar days.

5-6. Candles

Candles used for religious purposes, candles used for table lighting in quarters, and candles used on dining tables of clubs on formal occasions are authorized. When used in other places of assembly and in areas not specifically approved, each candle must be contained within the globe of a hurricane lamp. Persons placing or causing decorative candles to be so placed will be responsible for ensuring adequate clearance from combustible materials. Burning incense or candles and similar open-flame devices is prohibited.

5-7. Care of Buildings

a. Rubbish and Debris.

(1) Working and storage areas, new construction and repair areas shall be policed daily to reduce fire hazards.

NTC Reg 420-2

- (2) Rubbish and scrap materials shall be disposed of in properly identified and located, non-combustible cans, bins or receptacles. At the end of the day, they will be carried to locations approved for rubbish disposal or for temporary storage. Work areas shall be kept reasonable free of combustible debris accumulation.
- (3) Open top wastebaskets shall be metal or other non-combustible materials.
- (4) Trash cans shall be of non-combustible construction and provided with a cover.
- (5) The use of combustible plastic wastebaskets is strictly prohibited, except in housing.
- (6) Clean and soiled rags shall be stored separately in metal containers.
- (7) Steel wool, a combustible material, shall be stored separately in covered metal containers.
- (8) The burning of paste wax or heating over an open flame for easier application is strictly prohibited.

b. Personnel Service Rooms.

- (1) Covered metal trash receptacles with self-closing lids will be provided in all rest rooms or latrines and in other areas where paper towels, disposable paper or plastic cups are used.
- (2) Clothing lockers shall be adequately ventilated and maintained in a clean and orderly condition. Materials shall not be stored on top of or underneath lockers. Work clothing in lockers shall be aired and cleaned regularly.
- (3) Flammable liquids, chemicals, paint-soaked rags and similar materials shall not be kept in clothing lockers.
- (4) Combustible materials shall not be placed on radiators, heaters or steam pipes.
 - c. Attics and Concealed Spaces.

- (1) Attics and concealed spaces shall be kept clean. Unsprinklered attics shall not be used for storage of combustible materials.
- (2) Scuttle holes and other openings communicating to attics or concealed spaces shall be fitted with doors or hatched equivalent in fire resistance to the ceiling construction.
- d. Access Aisle. Adequate access aisles with proper identification signs posted, as necessary. shall be maintained at all times to fire alarm boxes, standpipes, fire extinguisher, fire exit facilities, sprinkler system control valves, and electric, steam, water and gas controls.
- e. Cleaning mops used for water mopping may be stored in mop or broom closets. Mops used with oil and/or grease, solvents, etc., will be stored outside buildings or stored in metal containers with lids.
- f. All paints, brushes, drop cloths, rags, etc., shall be removed from buildings at the close of the workday. An exception is in paint shops where full precautions are taken daily to store paints and related supplies. Only minimum quantity is then authorized and will be stored in a metal enclosure with adequate ventilation.
- g. Soiled rags used in connection with repair shops, painting operations, etc., will be removed from buildings or placed in a metal container with tight-fitting, self-closing covers.
- h. Fire Doors and Shutters. No fire door or fire shutter shall be blocked, locked or obstructed in any manner which will prevent or interfere with its proper functioning in an emergency.
- i. Storage of lumber or other combustible materials in boiler rooms is strictly prohibited.

5-8. Building Utilization

- a. Sleeping Areas.
- (1) Buildings or parts of buildings will be used only for the purpose for which they were originally constructed or related to serve. Where other use is to be made of a building, permanently or temporarily, prior approval by the Installation Fire Marshal is required.
- (2) No individual, or group of individuals, will be quartered or allowed to sleep in

- any building not designed for quarters or in which the prime occupancy is other than housing except as specified herein. Specific exceptions may be granted by the Installation Fire Marshal.
- (3) The use of attic space in any building, including quarters, as a sleeping area without written approval of the Installation Fire Marshal is prohibited.
 - b. Occupancy of Utilization Change.
- (1) Pump houses, generator buildings, transformer station, and furnace and mechanical equipment rooms will not be used for other than their designed purpose. Storage of any materials or equipment in boiler rooms of furnace rooms is strictly prohibited.
- (2) Mechanical equipment or air handling equipment rooms shall not be used for storage.

c. Housekeeping.

- (1) Responsibilities. Performance of housekeeping activities is the responsibility of the using service.
- (2) Trash and litter. Trash and litter will not be permitted to accumulate in appreciable quantities on floors. Refuse material in quantities of less than 2 cubic feet may be placed in noncombustible containers with open tops and solid sides and bottoms. Large quantities will be placed in completely enclosed, covered metal containers.
- (3) Building vicinity. At no time will cut grass, trash, litter, rubbish, packing materials or other combustible material be stored or allowed to accumulate against, under or within 10 feet of any building or structure, except in Army family housing.
- (4) General cleanliness. A high degree of general cleanliness and order is required at all times in arrangement or stored materials, working stock, or completed work awaiting delivery.

5-9. Common Hazards

a. Heat.

(1) Portable liquid fuel or gas-fired heaters shall not be installed in buildings without written approval from the Installation Fire Chief.

- (2) The use of open-flame heating devices is prohibited in areas subject to accumulation of flammable vapors such as, but not limited to, gasoline stations, garages, paint shops and aircraft hangers.
- (3) Portable electric heaters are generally prohibited for energy conservation purpose. However, when otherwise permitted, written approval of the Installation Fire Chief will be required for heater use. Such heaters, when permitted, shall be UL, labeled or listed and shall be of a type in which the electrical circuitry is automatically shut off in the event the unit is tipped over. Power supply cords and plugs shall be in good condition, and supply circuit shall be adequate for safe use.

b. Electrical.

- (1) The current edition of the National Electrical Code, NFPA 70, shall be the minimum standard for all electrical wiring and equipment. Installation, repair and change in electrical wiring, fittings, or attachments for electrical appliances shall not be made except by authorized electricians.
- (2) Electrical appliances and devices shall bear the label of, or be listed by, UL. Owners and users of decorative lamps and small electrical appliances acquired in Europe and the Orient are cautioned that these frequently are without UL label.
- (3) All electrical wiring, equipment, and devices, including electrically operated vending machines, water coolers and clocks installed and operated in aircraft hangers, automotive repair shops and other occupancies where flammable vapors, gases or dusts may be present, shall be listed by UL, for the use in the particular hazardous area.
- (4) All soldering irons, hot plates, coffee makers, and other non-fixed electrical heating devices, shall be disconnected from outlets when not in use. Clearance of 18 inches shall be maintained between all such appliances and combustible surfaces, unless properly protected by a non-combustible material. The use of automatic timers to control power supplies is prohibited.

c. Cooking.

(1) Cooking is permitted only in properly arranged and equipped authorized locations.

- (2) No cooking or use of coffee makers, hot plates, and similar electrical appliances is permitted in troop billets, except is designated kitchen areas.
- (3) Private rooms of BOQs and BEQs are authorized to use coffee makers, toaster ovens, hot plates, microwave ovens, and similar appliances if they are equipped with kitchens, kitchenettes or if they have adequate electrical circuits. Adequate electrical circuits shall mean, circuits which have been tested and judged to be capable of carrying the load that is being contemplated plus 10% margin of safety. The load carrying capability of an electric circuit shall be inspected by a competent state licensed electrician or electrical engineer.
- (4) No device shall be installed which will interfere with the normal operation of a circuit breaker or fuse. Whenever a circuit has been interrupted by a tripped breaker or blown fuse, the source of the disturbance shall be located and eliminated before restoring power to the interrupted circuit.
- (5) Coffee maker and cooking appliances shall be inspected for UL approval, current draw capacity and the general condition of the unit. Coffee maker and cooking appliances must rest on a non-combustible surface. A distance of 12" from any combustible material is required.

d. Extension Cords.

- (1) Unserviceable Government owned extension cords will be removed and turned in for repair or replacement. Unserviceable, unsafe or non-complying privately owned cords will be confiscated by the Fire Department Inspector.
- (2) Connection cords and extension cords to appliances, lamps and other electrical devices are subject to article 400, National Electrical Code. Substitution for permanently installed fixed wiring in conduit or flexible conduit is prohibited. Therefore, connection or extension cords:
- (a) Will not be passed through holes in walls, ceilings, or floors.
- (b) Will not be passed through doorways, windows or similar openings.
- (c) Will not be attached to building surfaces.

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- (d) Will not be concealed behind building walls, ceiling or floors.
- (e) Will not be spliced or taped.
- (f) Will not be used to power two-, three-, or four-way plugs.
- (g) Will not be used for hanging or supporting items or in any way be under tension.
- (3) Unless approved for a specific purpose by the Installation Fire Chief, connection cord and extension cord wired will not be smaller than American Wire Gauge (AWG) 18, and will not be larger as required by Appendix B. Minimum authorized size of wire in this table is based on the amperage which the wire carries.
- (4) Fuses or circuit breakers in branch circuits will not exceed 20 ampere capacity, unless the Installation Fire Marshal specifically authorized their use above this capacity and the fuse box is so labeled.
 - e. Smoking and Smoking Material.
- (1) Smoking by any individual while in bed is prohibited. There is no smoking in any Government buildings. There will be designated smoking areas located outside each building.
- (2) Smoking in authorized designated smoking areas only. "NO SMOKING" signs will be posted. The Installation Fire Chief will approve all smoking areas.

General Guidance.

Cigarettes and cigar butts, ashes, matches, etc., will be disposed of in butt cans or ash trays. In no case will live smoking material be disposed of in trash receptacles, thrown from vehicles or carelessly disposed of in outside areas.

5-10. Heating Equipment

a. Space heaters and cooking appliances will be separated from combustible materials IAW manufacturer's specifications. The Installation Fire Chief will determine appropriate clearance when not specified by the manufacturer.

b. No beds, clothing, furniture, curtains, drapery or any other light combustible material will be placed within 36 inches of any heating device other than steam or hot water radiators. A clearance of 4 inches is required between light combustibles and steam or hot water radiators.

5-11. Auxiliary Kitchen Equipment

Exhaust ducts, exhaust fans, grease traps and range hoods will be cleaned at sufficient intervals to prevent any noticeable accumulation of grease. Special care will be taken where charcoal broilers and similar devices are used. A CO2 fire extinguisher will be placed within 20 feet of the cooking area. Grease filter will be cleaned daily.

Chapter 6

Flammable Liquids

6-1. Purpose

To define and establish criteria for the use, handling and storage of flammable materials.

6-2. Definition

Flammable liquids are defined as any liquid with a flash point below 100 degrees Fahrenheit (37.8 degrees Centigrade). Combustible liquids are defined as any liquid which will burn and has a flash point in excess of 100 degrees Fahrenheit. (See Appendix C.)

6-3. Use and Storage of Flammable Liquids

- a. All flammable and combustible liquids storage and use shall conform to the requirements of NFPA No. 30.
- b. Flammable liquids shall not be stored in any place of public assembly, clubs, barracks, BOQs, BEQs, or in buildings used for sleeping quarters.
- c. In offices or administrative occupancies requiring small amounts of flammable liquids, such as cleaner, ditto fluid, and other flammables not exceeding 8 fluid ounces per container, may be stored in office desks or cabinets.
- d. Gasoline and other flammable liquids shall not be kept, used or disposed within any building except by means of UL, listed safety cans in good condition.

- e. Small aerosol or pressurized cans containing flammable liquids may be used providing all precautions such as elimination of ignition sources and provisions for adequate ventilation are observed.
- f. Flammable solvents will be used only when the grease or foreign material cannot be removed by soap or detergents and water, necessary for removal of the deposit. Gasoline will not be used as a cleaning solvent.
- g. Gravity discharge of any flammable liquid from tanks, drums, or containers, other than UL listed safety can, is prohibited within all buildings.
- h. Flammable liquids shall not be drawn from, or dispensed into, tanks or containers within a building except with the drum in an upright position, using an approved type manually operated barrel pump, and only in locations approved by the Installation Fire Chief.
- i. Combustible liquids may be stored in closed metal containers having an individual capacity of not more than five gallons. The use of glass or plastic containers, other than listed safety cans, is prohibited.
- j. All tanks, hoses and containers shall be positively grounded while flammable liquids are being poured or dispensed to prevent static electricity discharge.
- k. Gasoline, oil or any other flammable liquid shall not be discharged into, or permitted to accumulated in, storm drains or sanitary sewers.
- l. "FLAMMABLE STORAGE NO SMOKING" signs will be posted on the outside of all flammable storage areas. The number of signs required depends on the number of accessible approaches to the storage facility. Storage lockers or buildings will be kept scrupulously clean at all times. All products will be stored in tightly closed containers and plainly marked to indicate the nature of contents. Combustible materials, such as paint brushes, paint rollers, wood, paper, etc., will not be stored in flammable storage areas.

6-4. Storage of Small Gasoline-Fueled Appliances and Equipment

a. Small gasoline-fueled equipment such as, but not limited to, portable generators, pumps. chain saws, all types of grass cutting equipment, field kitchen equipment, Nelson heaters, lanterns, and

similar devices which may not be stored outside due to weather conditions and security requirements, will be stored as outlines below:

- (1) In buildings or rooms in buildings constructed and approved for storage of flammable liquids.
- (2) In buildings designed and constructed for repair of motor vehicles.
- (3) Unoccupied buildings or supply annex buildings containing no combustible materials may be used as a flammable storage area. Buildings to be used will be inspected by Fire Inspectors and written authorization will be provided when buildings are acceptable. Building services for heat, lights, and power will be disconnected.
- b. Equipment will be stored with gasoline tanks in the "as is" condition; that is, tanks will neither be topped-off nor emptied prior to storage.
- c. Storage areas selected inside motor vehicle repair shops must be remote from any possible source of ignition. Small rooms should not be used unless ventilation at floor level can be provided.
- d. Units with problems due to lack of proper storage facilities will notify the Fire Department in writing, listing type and quantity of equipment to be stored. Assistance will be provided in obtaining proper storage facility.

6-5. Safety Precaution Required

- a. "NO SMOKING" signs will be posted in all flammable storage areas. Separate storage containers or buildings will be equipped with "FLAMMABLE STORAGE NO SMOKING" signs as stipulated in Chapter 6, paragraph 6-4a (3).
- b. All fuel caps will be in place and tight. (NOTE: Some fuel tank caps are equipped with a small air vent in the cap; if the lid is tight, the small amount of vapors escaping from these vents are insignificant.)
- c. Where provided, valves in fuel lines to carburetors or burners will be closed.
- d. Equipment will not be fueled or defueled or operated inside storage areas. Operation includes hand cranking or any other operation of the motor.

h. Flammable liquid containers found to be leaking shall be moved to a safe location and contents transferred to serviceable containers.

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- e. Where storage is, or may be, for long periods of time, batteries will be disconnected and the cables secured prior to storage to prevent accidental contact with the battery terminals.
- i. No vehicle transporting explosives shall be refueled while explosives are in the vehicle, except in an emergency, and only with the engine stopped, all lights and radios off, and static grounding devices properly connected.
- f. Draining of fuel tanks prior to storage is required. Draining of tanks will not be considered grounds for waiver of any of the precautions herein.
- j. Use of defective or leaking fuel dispensing equipment (i.e., nozzles, hoses, pumps) shall not be permitted.
- g. Each item placed inside storage areas will be inspected for fuel leaks. Any item which leaks fuel, or cannot be sealed to prevent the escape of vapors, will not be placed inside storage areas.
- k. "Make-shift" fuel dispensing or defueling arrangements are prohibited. Fuel dispensing, storage locations, arrangements, and equipment shall conform to the pertinent requirements of the Uniform Fire Codes or applicable Army technical manuals. Defueling into open containers is prohibited.

6-6. Fueling Operations

- l. Automatic vehicles and other spark producing equipment shall not be operated within 50 feet of any fuel spill involving gasoline or fuels or similar characteristics until the spill has been cleaned up and all flammable vapors have dissipated.
- a. Only authorized and properly trained personnel will be permitted to operate major fueling equipment. Knowledge of the equipment hazards involving and knowledge requirements stipulated in NFPA-101 for handling flammable liquids will be required.
- m. Fueling of lawn mowers and other gasoline-powered equipment or dispensing of flammable liquid will be done outside of all buildings.
- b. "Self-Service" gasoline stations shall have a fully qualified attendant in the immediate vicinity of gasoline dispensing operations during all periods that the facility is open for use. A listed automatic-closing type hose nozzle valve, with or without latch open device, shall be provided on island type dispensing of class 1 liquids.
- 6-7. Hazardous Chemicals, Gases, and Explosives
- c. Unattended gasoline stations are prohibited. This restriction does not apply to fueling points for Army Vehicles in Field Operations.
- a. All chemicals shall be handled only by personnel properly instructed in the potential hazards and characteristics of the material involved and duly authorized to perform such work.
- d. Operators of vehicles and mobile equipment shall turn off engine, light and short-wave transmitters before taking on fuel.
- b. Damage or leaking containers shall be treated as and considered to be hazardous material spill, and the area evacuated until determination is made as to what action to take.
- e. Vehicle operator, attendants or others shall not smoke or light a match or lighter during fueling, and there shall be no open flame in the vicinity.
- c. Hazardous Gases. Storage and handling of compressed gases will be IAW AR 700-68.
- f. Latching or locking devices which restrict or impede the ability to stop the flow of fuel shall not be permitted on any gasoline or other flammable liquid dispensing nozzle. This does not preclude the use of listed and approved automatic nozzles in non-self service gasoline stations.
- d. Explosives, Blasting Agents, and Pyrotechnics.
- g. The operation of any vehicle leaking fuel or excessible amounts of oil is prohibited.
- (1) Explosives, blasting agents, and similar materials other than military explosives shall be stored, handled, and used in compliance with NFPA 495, Code for Explosive Materials and TM 9-1300-206.

(2) The sale, storage, possession or use of fireworks of any description on the Fort Irwin Installation, including Army owned housing areas, is prohibited.

6-8. Display and Storage of Flammable and Combustible Liquids, Paint, and LP Gases in Mercantile and Retail Agencies

- a. Retail outlets of Post Exchanges, Post Supply, Self-Service Store, DPW storage and issue facilities, and similar operations providing supplies to customers are subject to the directive of this paragraph.
- b. LP gas containers with a maximum water capacity of 2 1/2 pounds for use with hand torches, LP gas camping stoves, and similar appliances may be stored or displayed in buildings frequented by the public. The quantity of LP gas stored and/or displayed will not exceed 200 pounds.
- Flammable and Combustible Liquids. The amount of flammable and combustible liquids, including oil base paints, displayed, will be limited to quantities needed for normal sales demand but shall not exceed two gallons per square foot or gross floor area. The gross floor area used for computing the maximum quantity permitted shall be considered as that portion of the store actually being used for merchandising flammable and combustible liquids. Containers in display area shall not be stacked more than three feet or two containers high, whichever is the greater, unless on fixed shelving or otherwise satisfactorily secured. Shelving shall be of stable construction, of sufficient depth and arrangement so the containers displayed thereon shall not be easily displaced. Display area of LP gas and flammable liquids will not be located near exits, stairways or in areas normally used or intended to be used for the safe egress of customers.
- d. Storage of LP Gases by Retail Agencies. LP gas containers rented by rental agencies are classified as "inservice" containers and shall be stored outside in an authorized storage area as outlined in Chapter 6, paragraph 6-4 of this regulation. Storage of compressed gases such as oxygen, acetylene, helium and all other hazardous commodities will be stored IAW AR 700-68.

Chapter 7

Fire Prevention Inspections

7-1. Purpose

To establish procedures and responsibilities for fire prevention inspections.

7-2. Building Inspections

- a. Inspections will be conducted by Fire Department at intervals stipulated in AR 420-90, monthly, quarterly, and annually.
- b. Whenever practical, the Unit or Building Fire Marshal will accompany Fire Department Inspectors to assist and to facilitate any corrective action required.
- c. When buildings are locked during working hours, the rank, name, telephone number, and unit of the key custodian will be on file at Emergency Operations Center (EOC), MP Station, and Fire Department.
- d. A copy of the building inspection report will be provided to the Building Fire Marshal. After it is reviewed by the Installation Fire Chief, a reply in writing indicating action taken to correct fire safety deficiencies will be made through the Unit are Area Fire Marshals to the Installation Fire Chief.

7-3. Area Fire Marshals

Area Fire Marshals will make spot inspections of all buildings, flammable storage areas, and outside storage facilities using the requirements stipulated in this regulation. A fire prevention folder will be maintained by Area Fire Marshals. Folders will contain, but not be limited to, the following:

- a. Copies of documents appointing Area, Unit, and Building Fire Marshals within his organization.
- b. A copy of the current Fort Irwin regulation will be with all Building Fire Marshals or his designated representative.
- c. A list of all buildings under his responsibility. Buildings will be identified by building number.
- d. A copy of inspection conducted, together with actions taken to correct deficiencies.
- e. Copies of these inspections will remain on file until deficiencies are corrected and after the file has been reviewed by the Inspector General (IG).

7-4. Unit Fire Marshals

The Unit Fire Marshal will:

- a. Conduct fire prevention inspections once each month or more often when necessary, using the criteria stipulated in this regulation.
- b. Inspect fire extinguishers, including those on mobile equipment, to ensure that they are charged and in serviceable condition. Check date and initial tags on all extinguishers within the unit's area of responsibility. Missing fire extinguisher tags on serviceable fire extinguishers will be replaced by the Unit Fire Marshal or his assistant.
- c. Prepare building fire plans, a copy of which will be posted prominently in the building. Building fire plans will include the following:
- (1) Names and telephone numbers of the Unit and Area Fire Marshal. Fire Marshals will be notified if a fire occurs in their building.
- (2) Complete instructions on how to report fires (Chapter 3, paragraph 3-4).
- (3) Stipulate that if a fire occurs, all personnel will evacuate the building and remain outside the building until cleared by the Fire Department.
- d. Maintain a fire prevention folder consisting of, but not limited to, the following:
- (1) A current copy of the Fort Irwin Fire Regulation.
- (2) A copy of documents appointing Assistant and Building Fire Marshals.
- (3) A list of all building and outside storage areas for which they are responsible. Buildings will be identified by building numbers.
- (4) A copy of inspection conducted by the Unit and Assistant Fire Marshals together with action taken to correct deficiencies. Inspection reports will remain on file until deficiencies are corrected and reviewed by the IG.

7-5. Building Fire Marshals

a. Building Fire Marshals will be appointed in buildings or in areas in buildings which are opened or closed on a cycle and secured during periods buildings are not occupied and keys are not immediately available to personnel on duty at night, on weekends and on holidays. Examples are office

buildings, dining facilities, motor pools, supply, and arms rooms.

- b. Building Fire Marshals will, at the close of each workday, conduct fire prevention inspections IAW, but not limited to, the requirements stipulated below:
- (1) Ensure that all trash and waste have been removed from the building. If clean up is accomplished by contract, ensure that building occupants do not dispose of smoking materials in waste baskets or trash cans.
- (2) Disconnect all heat-production devices not automatically controlled, to include coffee makers and hot plates.
- (3) Check electrical office machines to ensure they are turned off and covered. Covers will reduce damage to machines if involved in a fire.
- (4) Make close inspection of combustible furniture for latent sparks or coals from smoking materials, including examination under cushions.
- (5) Extinguishment of latent sparks or removal of hot sledge in areas where welding and cutting have been conducted.
- (6) Close and lock all windows, and close all interior doors including stairwell doors.
- (7) Eliminate other hazardous conditions peculiar to the building or operation.
- (8) A record of inspections will be maintained by use of NTC Form 28-R. After the daily inspection is completed, the last person out of the building will initial NTC Form 28-R for that day. Daily inspections are not required if buildings are not occupied. Examples are weekends and holidays.
- c. Inspection requirements stipulated in Chapter 7, paragraph 7-5b will be reproduced and posted in each building to ensure that Building Fire Marshals are aware of their duties.
- d. Hospital only. The duties of the evacuation, fire extinguisher operators, search teams (prior to Fire Department arrival) and route monitors, are governed by MEDDAC Fire Regulations.

7-6. Fire Prevention Inspection in Places of Assembly and High Hazard Occupancies

Building Fire Marshals conducting fire prevention inspections in service clubs, theaters, bowling lanes, children's nurseries, craft and hobby shops, NCO and EM Clubs, Officers' Clubs, thrift shops, and other occupancies as may be designated by the Installation Fire Chief will be inspected daily at the close of business. Inspection criteria is to be used as stipulated in Chapter 7, paragraph 7-5b and c.

7-7. Reports

Reports of monthly fire prevention inspections will be submitted to the Installation Fire Chief prior to the 5th working day of the subsequent month. DA Form 5381-R will be used. Where special hazards exist, inspections will be made daily by the Unit Fire Marshal. One copy of the DA Form 5381-R will be retained on file for review by the Fire Prevention Inspectors and the IG. These reports are exempted from reports control under AR 335-15, Chapter 7.

Chapter 8

Cutting and Welding

8-1. Purpose

To establish and set forth safety precautions for cutting and welding.

8-2. Cutting and Welding

- a. No cutting or welding will be done in cantonment areas, other than approved shops, except as provided below.
- b. No building or portion of a building will be used for shop operations by welding without approval by the Installation Fire Chief after verification of the adequacy of fire prevention and safety facilities. Welding shops will conform to the requirements stipulated below:
- (1) In welding shops located in non-combustible buildings, combustible materials and other shop operations will be shielded from the welding area with non-combustible guards or partitions. Approved type welding curtains may also be used. Partitions or curtains at floor level will be tight to prevent sparks from going under partitions or curtains.
- (2) In welding shops located in combustible buildings, welding shops will be established as outlined in paragraph 8-2b (1) above. In addition, combustible walls, partitions, and floors will be shielded with metal or a fire retardant material approved by the Fire Department properly sealed to ensure that no sparks or hot sledge can fall through cracks, pipe holes, or other small openings.

(3) Welding shops will not be established in buildings where flammable liquids are stored or used and will not be located within 20 feet of areas where oil and grease are present or used.

- c. The most hazardous welding and cutting operations occur when portable welding equipment is moved from one job site to another to perform various types of welding and cutting jobs. When possible, this type of work should be done outside. The welding site will not be placed within a 35 foot radius of any combustible material present.
- (1) Where practical, all combustibles will be relocated at least 35 feet away from the work site. Where relocation is impractical, combustibles will be protected with flame-proof covers or otherwise shielded with metal, guards and curtains approved by the Fire Department.
- (2) Oxygen under pressure will react violently when placed in contact with oil and grease. Oxygen cylinders, valves, regulators, hoses, and other apparatus will be kept free from oil and grease and will not be handled with oily hands, oily rags, gloves, or greasy equipment.
- d. Welding and cutting will be done only by qualified welders. Supervisors will verify operator's qualifications. Trainees will work only under the direct supervision of authorized personnel.
- e. Each operator will be responsible for checking elements of his equipment prior to each day's use. The check will include, but not limited to, the conditions of the hoses and connections, valves, including tank valves, regulator controls, and adjusting valves on the torch will be given special attention. Supervisors will make frequent spot checks to ensure observance of these requirements.

8-3. Compressed Gas Cylinders

Storage and handling of compressed gas cylinders will conform to the following:

- a. Oxygen cylinders will be stored at least 40 feet from fuel cylinders or be separated by a fire wall, except when one cylinder of each gas is located on a cart or paired for welding and cutting.
- b. Full cylinders of all types will be protected from the direct rays of the sun while in storage.

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- c. Full cylinders will be stored separately from empty containers.
- d. Cylinders in shops will be secured to a wall or a building member by means of a non-combustible strap or chain.
- e. Safety caps will be affixed to all cylinders that are not in use or connected to a pressure regulator.
- f. DA Form 5383-R (Hot-Work Permit) will be required when cutting or welding is to be performed outside of an approved area.

Chapter 9

Hydrants and Fire Lanes

9-1. Purpose

To ensure that water distribution for fire-fighting purposes is not restricted by unauthorized use of hydrants or by illegal parking of motor vehicles, and that free access to all buildings and structures is available to the Fire Department.

9-2. Fire Hydrants

Fire hydrants will not be obstructed by fences, trees, barriers or dirt fills, nor will they be used for other than fire fighting or fire drills, except when specifically approved in writing be the Installation Fire Chief. The Fire Department will remove, confiscate, and report to the Installation Fire Marshal any unapproved devices attached to fire hydrants. Approval for special use will include the following:

- a. Availability of a standard hydrant wrench for operations of the hydrant; no other type wrench may be used.
- b. Devices installed on a hydrant will be arranged so as not to interfere with a free 360 degree swing of the hydrant wrench on the valve stem and hydrant caps.
- c. All caps and gaskets are to be replaced promptly when hose or other devices are removed from the hydrant.
- d. Use is such that the 4 1/2 inch and one 2 1/2 inch outlets are available for use by the Fire Department.
- e. Discharge from the connection to the hydrant is controlled by a valve independent of the hydrant valve.

f. Hydrant valve is fully opened while in use.

9-3. Parking of Vehicles and Equipment

- a. Parking restrictions. No vehicle will be parked within 15 feet of a fire hydrant in any direction.
- b. Fire Lanes. Where use of streets or access roads for vehicle parking interferes with movement of fire fighting apparatus, required extra maneuvering to reach an operating position, or interferes with use of placement of fire fighting devices (hose, ladders, etc.), the locations will be marked by painting the curbing red or by erection of suitable signs reading: "FIRE LANE-NO PARKING ANYTIME".
- c. Vehicles will not be parked less than 15 feet from any building or structure. Privately owned vehicles or motorcycles will not be stored or parked inside any building on the installation except in buildings which are designated and approved for this purpose.

9-4. Blockage of Streets or Fire Lanes

Should a street, roadway, or fire lane be blocked by any cause that would prevent or slow down response of fire apparatus, immediate notification will be made to the Fire Department, giving the exact location and cause, if known, so that responding equipment can be rerouted as necessary.

9-5. Barricading Streets and Roadways

The sawhorse type barricades are the only type barricades authorized for blocking roadways or streets. All other type barricades are prohibited.

Chapter 10

Standard for Aircraft Fueling and Defueling Service

10-1. Scope

This chapter contains fire prevention and protection polices pertaining to aircraft operation and maintenance activities at heliport and other areas on the reservation where aircraft are operated or maintained.

10-2. Maintenance and Servicing

The following precautions will be observed during maintenance and servicing of aircraft:

a. Only authorized personnel trained in the safe operation of equipment used in the operation of

emergency controls and in procedures stipulated in NFPA Code 407 will fuel or defuel aircraft.

- b. Refueling. Refueling procedures will be in strict compliance with the provisions outlines in NFPA 407 and applicable technical manuals. Care will be taken to avoid fuel spillage during refueling. Spillage will be reported without delay to Fire Department and DPW, Environmental Division, so that fuel may be washed down and/or neutralized without delay.
- c. Defueling. Defueling procedures will be in strict compliance with the provisions contained in NFPA 407, NFPA 410, and applicable technical manuals. Procedures are precautions for defueling will include, but not limited to, the following:
- (1) Aircraft fuel tanks may be defueled by power or by gravity. For safety, speed and efficiency, power defueling will be used to remove most of the fuel. Only the final draining of tanks may be done by gravity draining.
- (2) Aircraft defueling will be done out of doors and at the designated defueling points.
- (3) The aircraft fuel tank openings will be at least 50 feet from any hangar or building, and the proper minimum distance from radar equipment (300 feet) will be maintained.
- (4) No aircraft, vehicular piece of electrical equipment, to include auxiliary power units, AC or DC, type generators, will be used within 50 feet of the aircraft.
- (5) Disconnect external power before defueling.
- (6) No smoking is allowed within 50 feet of aircraft.
- (7) Because of the danger, only those personnel actually required to conduct the defueling operation and run the fire equipment will be allowed within 50 feet of the aircraft.
- (8) All defueling operations will be stopped if there is an electrical storm in the immediate area or there is a fire, fuel spill, crash or accident at the defueling point or airfield.
- (9) Place fuel service truck upwind from the aircraft and not closer than 10 feet from the aircraft, and position to provide an open route of escape in case of emergency. Vehicle operators will

apply emergency brake in the fuel service truck before leaving the cab.

- (10) Ground the defueling vehicle by connecting the ground cable to a ground rod.
- (11) Ground the aircraft by connecting the clip at the end of the other arm of the "Y" cable or by connecting a separate ground cable to an unpainted metal surface of the aircraft other than radio antenna or propeller.
- (12) Bond the defueling tube or length of suction hose to the aircraft with a bonding plug or alligator clip.
- d. Oil Spillage. Oil spillage on the flight line apron or in hangars will be disposed of either by covering spill area with an absorbent material of dry sand. In either case, the oil soaked material will be placed in suitable containers and removed to a disposal area after absorption has taken place. Use of water to wash down oil spills will be avoided since this only increases the size of the spill area, creating a slipping or skidding hazard to personnel and vehicles.
- e. Power Units. When auxiliary power units are connected to aircraft for use during maintenance, the unit will be positioned upwind to the maximum length of the attaching cable. Power units will be shut down immediately if fuel spillage occurs.
- f. Explosive Ordnance. Loading or unloading of explosive ordnance or other high explosives on or from aircraft will be accomplished only in areas designated by the responsible commander in keeping with quantity distance tables for explosives. The Fire Department will be notified in advance of impending operation of this type so that fire protection may be afforded during landing, takeoff, loading or unloading, and fire prevention personnel will be fully aware of the hazard involved.
- g. Static Grounds. Static grounds will be affixed to aircraft while being refueled or defueled. Ground cables will be connected from truck to aircraft to ground and truck to ground. Aircraft undergoing maintenance on the flight line apron or in hangars also will be grounded. Grounds will be tested yearly to ensue a maximum resistance of 10,000 ohms. Hangars grounding should comply with TM 5-811-3 and appropriate section of the most recent NFPA 78.

h. Portable Fire Extinguishers. Portable fire extinguishers will be positioned in an accessible location near aircraft undergoing refueling, oxygen will be given a visual inspection prior to these operations to ensure that they are sealed, in good state of repair, and properly initialed as per monthly inspections.

Chapter 11

First Aid Fire Fighting Equipment

11-1. Scope

Included are all types of portable fire extinguishers, sand pails, dry powder containers, standpipe and hose lines, water barrels and pails, build-in extinguisher systems on vehicles, and local extinguishing systems.

11-2. Use

First aid fire fighting equipment will be used only for extinguishing or training and will be removed from the mounting or rack only for those purposes or for inspection, testing, or recharging by authorized personnel.

11-3. Recharging and Repair of Fire Extinguishers

- a. Fire extinguishers for protection of buildings, structures, and other real property facilities will be repaired by the Fire Department. Fire extinguishers required by units, organizations or ammunition trucks, troops transport, forklifts, etc., will be ordered by the Fire Department using accounting data from the units, organizations needing the fire extinguishers.
- b. Commanders of satellite installations will arrange for recharging of extinguishers at offpost facilities, utilizing local purchase where the service is available in order to reduce to a minimum the period during which the equipment is out of service, unless fire extinguishers can be taken to a Fire Department without undue delay and returned promptly to the building to be protected.

11-4. Classification of Fires

The basic types of fire extinguishers are Classes A, B, C, and D as defined below:

- a. Class A. Fires in ordinary combustible materials such as wood, cloth, paper, and many plastics.
- b. Class B. Fires in flammable liquids, gases, and greases.

- c. Class C. Fires which involve energized electrical equipment where the electrical nonconductivity of the extinguishing agent is of the first improper (Class C fires are essentially Class A or B fires involving energized electrical wiring and equipment.)
- d. Class D. Fires in combustible metals such as magnesium, titanium, zirconium, sodium, and potassium.

11-5. Fire Extinguishers

Fire extinguishers approved for Army uses are listed at Appendix D.

Chapter 12

Contractor and Concessionaire Operations

12-1. Scope

The term "contractor" includes all persons of firms performing work or services on Fort Irwin for the U.S. Government or any of its branches or activities involving any type of work or service on the installation. All provisions of these fire regulations are applicable to said parties.

12-2. Responsibility

- a. Each contractor is responsible to the government for acts of his employees or of persons rendering him service, whether or not the act was specifically directed by him.
- b. Each contractor is responsible for furnishing any special fire protection equipment and any installed special fire protection facilities that, in the opinion of the Installation Fire Marshall, are necessary for protection of government property involved in his operation or exposed to possible damage from the operation.
- c. Buildings assigned to the contractor will be used only for the purpose assigned and will not be used for sleeping or living quarters unless specifically approved by the Installation Fire Marshal.
- d. The contractor will be responsible for assuring that trash and debris are removed from the job site daily and that proper disposal of these materials is accomplished at the end of each working day.

e. Food preparation concessionaires will be responsible for ensuring that grease exhaust systems in their assigned buildings are kept free of grease accumulation. Grease filters will be cleaned daily.

12-3. Equipment

All equipment utilizing natural gas, liquefied petroleum gas, fuel, oil, electrical energy, flammable solvents, or any type of toxic or hazardous material will be of a type and model approved for that specific use and in good working order.

12-4. Storage of Materials

The contractor is responsible for maintaining material stocks and construction materials inside and outside the building in a neat and orderly manner.

12-5. Fire Hazards

A monthly report of fire safety deficiencies in contractor/concessionaire occupied buildings will be made in writing by the Building Fire Marshal to the Installation Fire Chief. Deficiencies which are created by the contractor/concessionaire occupancy will be corrected by the occupant without delay. The Installation Fire Marshal may shut down any operation until fire safety deficiencies have been corrected.

12-6. Self-Help, Remodeling, Refurbishing

- a. When an existing structure has work done on it that changes the physical floor plan (i.e., partitioned off, closet converted to heater room or office), if a ceiling is either dropped or raised, if a wall(s) receives paneling or any type of covering other than paint or wallpaper. All other additions, subtractions or rearranging of the physical makeup of an existing building from its present layout form, as of January 1, 1983 must meet the following criteria:
- (1) All self-help projects will follow the same Fire Protection Criteria as other construction.
- (2) The specific steps required to request approval and material are as follows:
- (a) Must be on a DA Form 4283 and must be accompanied by a sketch with an explanation attached.
- (b) Will be reviewed and evaluated by the Fire Prevention Section of the Fire Department.

(c) Will be approved for Fire Safety or disapproved. If disapproved, an explanation will be attached as to why and also guidelines will be given as to how the Fire Codes and Life Safety Codes may be met.

- (d) After approval by the Fire Prevention Section, it must be submitted to DPW.
- If any unit or organization (e) should obtain the necessary materials and supplies by circumventing the supply system, or any manipulation of rules, methods, or deviation used to obtain materials in which a self-help project may be accomplished, the same applies. Therefore, any selfhelp construction found on the post that cannot be documented as being completed prior to January 1. 1983, will be dismantled and removed from the building, or necessary repairs and changes will be made in order to bring the project into compliance with all Fire and Safety Codes. The changes will be accomplished within 30 days after the material has been received within the supply system and is available to the requesting unit. The wording of this section does not condone "scrounging" or "appropriating by other means" any construction materials or materials to remodel.
- b. The factors used in making all decisions concerning already existing structures are as follows:
- (1) Do they comply with the Uniform Fire Code?
- (2) Is the Life Safety Code being utilized? Does the type of material and the physical makeup of the structure prohibit the utilization of the Life Safety Code?
- c. The factors used in making all decisions concerning newly planned projects within existing structures shall be as follows:
- (1) Compliance with the Uniform Fire Codes.
- (2) Compliance with the Life Safety Code.
 - (3) Fire Load existing in structure.
- (4) Additional Fire Load created by the planned project.
- d. All building materials used to construct walls or to partition off will have a fire resistance

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rating of no less that one hour. The type of material or substance used on a wall or partition and that is classed as a finish will have no less than one 20 minute Fire Resistance Rating. All other building materials used in remodeling construction will have no less than a 20 minute Fire Resistance Rating, this is to include all exposed wood surfaces. This 20 minute rating may be Fire Resistance Paint or coating. (Fire Prevention Section will clarify if needed.)

- e. Storage areas, shelves, bins. Before submitting a final set of plans, it is recommended a research of the GSA Catalogs and the supply system be undertaken. If shelves, bins, or storage racks can be purchased through the supply system and they are made from metal or any other type of fire resistant material, this often times will be less costly in money and manpower and will usually meet the required Fire Codes. The Fire Prevention Section will always consider and recommend alternate methods and materials to complete a project, but the last deciding factor will always be Fire Safety and Life Safety.
- f. At no time will plywood, particleboard, cardboard, or any other similar type of materials be used to partition off areas or to cover existing walls. Use of any combustible material is prohibited unless it has undergone Fire Retardant Treatment and is approval by the Fire Department. The Fire Retardant Treatment must be of a permanent nature.
- g. This Fire regulation applies to all housing areas at Fort Irwin as well as the cantonment area and all other parts of the Fort not mentioned.
- h. No self-help construction work will be attempted by any of the housing residents within or around their assigned quarters or homes without coordination and approval by the housing manager and the Fire Prevention Section of the Fire Department.
- i. All self-help projects as well as all construction type projects are governed by the following: AR 420-90, AR 420-10, AR 210-50, TM 5-600, DA Pam Associations Uniform Fire Codes.

Chapter 13

Fire Regulations for Ranges, Training, and Bivouac Areas

13-1. Purpose

This chapter implements the provisions to ensure prompt detection, reporting, and control of fires on ranges, training, and bivouac areas.

13-2. Scope

- a. Applicable to all activities using ranges, maneuver and bivouac areas writing the limits of the Fort Irwin Installation, including elements of other command temporarily assigned to this area for training or for other purposes.
- b. The period 1 June to 15 November each year is of high potential fire hazards, and all fire prevention and protection measures must be continuously publicized and rigidly enforced. This chapter contains some of the more common practices required to reduce this high fire potential.

13-3. Ranges and Training Areas

- a. No cigarette or cigar butts, matches, pipe heels, or other burning material will be thrown from any vehicles on a military reservation.
- b. Smoking will not be permitted in areas of dense underbrush and dry grass. Smoking is permitted in cleaned areas when authorized.
- c. Bonfires, warm-up, or open fires are prohibited.
- d. Impact areas. Troops engages in training will not enter areas contaminated with unexploded munitions ("DUDS") for the purpose of fighting range fires without the approval of the Installation Fire Marshal or his representative. All fire fighting will be done under the supervision of the Installation Fire Marshal or his representative.
- e. Areas that have natural or man-made firebreaks will be selected for bivouac sites.
- f. Lanterns or other liquid fueled equipment will not be refueled inside tents or other enclosed areas.
- g. Pyrotechnics or incendiary devices (i.e., smoke grenades, tracer ammunition, flares, etc.) will not be used when the fire danger index is high in areas where natural cover vegetation will support the spread of fire.

13-4. Action in Event of Fire

a. Troops in training areas will be briefed on the proper procedure for reporting fires. Usually,

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fires will be reported to Range Control, and Range Control will relay the report to the Fire Department.

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- b. Troops will be instructed to respond quickly to a fire warning. Orders for personnel and equipment to be moved from the fire path will be given without delay. High value equipment should be moved first and other equipment moved afterwards if time permits.
- e. Troops in the fire area will stand by in a safe location and will assist in suppression effects when requested by Range Control, Fire Department Senior Officer, Installation Fire Marshal, or Unit Commander. The Senior Fire Department Officer, on the scene, is in command of all fire suppression activities.
- d. When a fire is reported in the impact area, weapons firing will be stopped on the range where the fire is located and adjacent ranges.

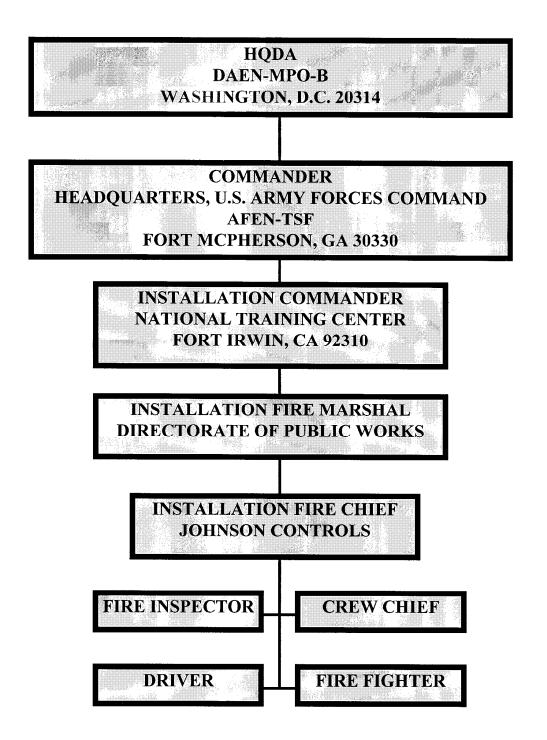
 Resumption of firing will be authorized when cleared by Installation Fire Chief.
- e. In case of a small grass or brush fires in areas other than the impact areas, personnel in the area will be immediately organized for on-the-spot fire fighting. Personnel from other units and organizations in the vicinity will be made available as required.
- f. Unidentified smoke or suspected fires will be reported to the Fire Department for investigation.
- g. Do not use tactical vehicles, other than standard fire trucks, for controlling natural cover fires.

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APPENDIX A

ORGANIZATIONAL CHART



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APPENDIX B

ALLOWABLE AMPERAGE CAPACITY IN EXTENSION CORDS

WIRE SIZE (AWG)	** <u>ALLOWABLE AMPERE</u> <u>CAPACITY</u>	** <u>ALLOWABLE</u> <u>WATTS</u>
18	7	840
16	10	1,200
14	15	1,800
12	20	2,400
10	25	3,000
8	35	4,200
4	60	7,200

^{*} Amperage shown are applicable only to wire insulated with rubber.

^{**} Allowable ampere or watts for electrical appliances or devices.

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APPENDIX C

FLAMMABLE LIQUIDS

1. Flammable liquid is a liquid having a flash point below 100 degrees F. and a vapor pressure not exceeding 40 pounds per square inch absolute at 100 degrees F.

Class I liquids include those having flash points below 100 degrees F. and are subdivided as follows:

Class IA includes those having flash points below 75 degrees F. and a boiling point below 100 degrees F.

Class IB includes those having flash points below 73 degrees F. and a boiling point at or above 100 degrees F.

Class IC includes those having flash points at or above 73 degrees F. and below 100 degrees F.

- 2. Flash point is the minimum temperature of liquid at which sufficient vapor is given off to form an ignitable mixture with the air.
- 3. Some of the most common flammable liquids dispensed at this installation are:

Gasoline - 56 to 92 octane	-45 degrees F.
Gasoline - 100 octane	-36 degrees F.
Gasoline - 100-145 octane	-50 degrees F.
Jet Fuel - JP4	-10 degrees F.
Aviation Turbin Fuel - JP-8	+100 degrees F.
Cleaning Solvent - Type I	+140 degrees F.
Cleaning Solvent - Type II	+100 degrees F.
Kerosene	+100 degrees F.

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APPENDIX D

FIRE EXTINGUISHERS

Description	UL Rating and Classification	Recommended Usage
Extinguisher, Fire, Dry Chemical, Potassium Bicarbonate base (Purple K), 2½ pd., Disposable Cylinder Sealed Pressure Type, Type 1111, Class 11, Size 2½, Fed. Spec. O-E-915 with mounting bracket.	5-B:C	On all general purpose vehicles or any vehicle with a capacity of seven or more persons or which is used for transporting Class C explosives: on material handling equipment, gasoline engine driven water pumps, general engineer equipment, and railway track maintenance equipment where a residual powder is not objection- able. It is also suitable for use in tents and bunkers where liquid fuel heaters are used.
Extinguishers, Fire Monobromotriflouromethane (CF BR), 2-3/4 pd. Disposable Cylinder, Sealed Pressure Type, Spec MIL-E-52031 with Mounting Bracket (Charged Replacement Cylinder Only, NSN 4210-00-708-0031). Operating temperature range -50 F. (10 C.) to plus 120 F. (49 C.) weight has decreased by four ounces or more, lubricant cylinder neck threads with one drop of OE 30 before reassembly.	2-B:C	On precision type equipment, electronic equipment, photo mapping and reproduction equipment, telephone, radio, radar, electric generator and mechanical equipment with exposed surfaces where a residual powder agent is undesirable. For specified equipment winterized for operation at temperatures below -25 degrees F. (-32 C.) for cockpits of all Army cargo areas of all large aircraft.
Extinguisher, Fire Dry Chemical Potassium Biocarbonate Base (Purple K), 5 pd. and universal mounting bracket, Type 1, Class 11, Size 5, Fed. Spec O-E-915. Operating temperature range minus 40 degrees F. to plus 120 degrees F.	10-B:C	On every vehicle when used for transporting flammable Class A or B explosives, or other such hazardous materials which require the vehicle to be marked or placarded IAW AR 55-355.
Extinguisher, Fire, Carbon Dioxide (CO2), 5 pd., standard charge, nonshatterable, Type 1, Size T, Fed. Spec. OE-910, with mounting bracket (wall type). Operating temperature range minus 40 degrees F. to plus 120 degrees F.		For use on equipment and areas directly related to the preparation of food, small marine vessels and amphibious equipment. For precision type equipment, electronic equipment, telephone, radio, radar, electric generators, and mechanical equipment within exposed lubricated surfaces where a residual powder agent is undesirable on railway guard cars.

APPENDIX D

FIRE EXTINGUISHERS

Description	UL Rating and Classification	Recommended Usage
Extinguisher, Fire, Carbon Dioxide (CO2), 15 pd., standard charge, nonshatterable, Type 1, Size 15, Fed. Spec O-E-910 with mounting bracket (wall type). Operating range minus 40 degrees F to plus 120 degrees F.	10-B:C	For large radar and communications equipment vans, telephone exchanges, large marine vessels and amphibious equipment, oxygen and nitrogen generating plants, hydrogen and carbon dioxide generating plants, and vehicles transporting and dispensing liquid fuels when a large smothering gas type extinguisher is required.
Extinguisher, Fire Difurochloro- bromonethane, (Halon 1211), 19 lbs, Type 1. Operating temperature range minus 40 degrees F. to plus 130 degrees F.	1A 20-B:C	Forward area rearming and refueling points.

APPENDIX E

REFERENCES

- 1. Occupational Safety and Health Act (OSHA) Safety and Health Standards (29 CFR 1910).
- 2. NFPA Codes and Standards.
- 3. AR 420-90, Fire Prevention and Protection.
- 4. AR 700-68, Storage and Handling of Compressed Gases and Gas Cylinders.
- 5. AR 735-11, Accounting for Lost, Damaged and Destroyed Property.
- 6. FORSCOM Reg 420-24, Facility Engineer, Fire Prevention and Protection.
- 7. TM 9-1300-206, Ammunition and Explosives Standards.
- 8. TM 5-812-1, Fire Prevention Manual.
- 9. DOD 4270.1-M, Construction Criteria.
- 10. DODI 4145.19R1, Storage and Materials Handling.
- 11. TB 5-4200-10, Hand Portable Fire Extinguishers Approved for Army Users.
- 12. DA Pam 570-551, Staffing Guide.
- 13. AR 95-26, Aircraft Fire fighting and Rescue.
- 14. AR 200-1, Environmental Impact Study.
- 15. AR 335-15, Management Information Control System.

	DAILY FIRE PREVENTION INSPECTION RECORD For use of this form, see NTC Reg 420-2; the proponent agency is DPW.										
1. BU	JILDING NU	JMBER		2. ORGANIZATION:				3.	3. REPORT MONTH:		
have	this date	conducted	d a fire pr	The initial for evention inspe- offee makers a	ction of this	building, at	the close of	business. F	ire hazards	-	
	1	2	3	4	5	6	7	8	9	10	
-	11	12	13	14	15	16	17	18	19	20	\dashv
-	21	22	23	24	25	26	27	28	29	30	
	31									1	
4. N	AME:						**************************************		5. TE	LEPHONE NUM	иBER:

NTC FORM 28-R, JAN 97

Previous editions may be used until exhausted.

V1.01

FIRE PREVENTION INSPECTION GUIDE SHEET

Fire inspection at the close of business is required by paragraph 3h, NTC Regulation 420-2. A conscientious inspection will greatly reduce the possibility of fire. This form should be initialed at the time of inspection and should not be initialed days of the month the building is closed, such as weekends, holidays and etc.

Reverse of NTC FORM 28-R, JAN 97

HOT-W	ORK PERMIT			-	
For use of this form, see AR 4	120-90; the proponent agency is	ACSIM			
1. LOCATION	T NO.				
4. TYPE OF WORK	5. START TIME 6. FINISH TIME				
7.a. NAME OF PERSON RESPONSIBLE FOR HOT-WORK AT JOB SITE (Contractor/Government Employee)	7.b. SIGNATURE				
PRECAUTIONS	BEFORE OPERATIONS				
CUEOKUET			CHEC	K ONE	
CHECKLIST			YES	NO	
8. Did Fire Department Inspector inspect site?					
9. Are there procedures for Fire Department emergency notif	ication? (Emergency No.)				
10. Are combustibles in area noted?					
11. Should combustibles be covered? (If yes, note in remark	s)				
12. Are proper extinguishers on hand?					
13. Is wet-down necessary? (If yes, note in remarks)					
14. Is smoking permissible at work sites?					
15. Is continuous fire watch required?					
16. Is Fire Department standby required?	:.				
17. Are other precautions required? (If yes, note in remarks)					
18.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	TE	•			
PRECAUTIONS	S AFTER OPERATIONS				
CHECKLIST			CHEC	K ONE	
O/IZOKEIO1	YES	NO			
19.a. Was Fire Department notified after hot-work operation	was completed?				
19.b. Time:					
20.a. Did Fire Department inspector inspect work site?					
20.b. Time:					
21. Are after work conditions safe? (If no, note in remarks)					
22. Are heat producing devices safe if left at work site?					
23.a. FIRE DEPARTMENT INSPECTOR'S SIGNATURE	TE				

24. REMARKS